CLAIMS

What is claimed is:

1. A display device comprising:

a signal identifying unit that receives an input signal and identifies the type of the input signal;

a signal checking unit that checks whether the identified input signal is abnormal; and

a signal changing unit that switches from the checked input signal to a next input signal to be checked so that the signal checking unit checks whether the next input signal is abnormal, after the signal checking unit checks whether the identified input signal is abnormal.

2. The display device of claim 1, wherein the signal identifying unit identifies whether the received input signal is one of a D-sub analog signal, a DVI analog signal, a DVI digital signal, and a VIDEO signal.

3. The display device of claim 1, wherein the signal checking unit checks whether the identified input signal is abnormal by one of decoding the identified input signal and sensing whether an input signal cable is connected to the display device.

4. The display device of claim 1, further comprising a data setting unit that sets one of a number of times the identified input signal is checked, a time required to check the identified input signal, and a position of the identified input signal to be checked within a sequence of identified input signals to be checked,

wherein if the signal checking unit has not checked one of the number of set times whether the identified input signal is abnormal and has not checked for the period of set time whether the identified input signal is abnormal, the signal checking unit continues checking whether the identified input signal is abnormal.

5. The display device of claim 4, further comprising a signal controlling unit that checks the position of the checked input signal within the sequence of identified input signals to be checked to determine which identified input signal is to be checked after the checked input signal,

wherein the signal changing unit switches from the checked input signal to the determined input signal so that the signal checking unit checks whether the determined input signal is abnormal.

6. A method of checking a signal input into a display device, the method comprising:

receiving the input signal and identifying a type of the input signal that is received;

checking whether the identified input signal is abnormal; and

switching from the checked input signal to a next input signal to be checked so that whether the next input signal is abnormal is checked, after the input signal is checked and found to be abnormal.

7. The method of claim 6, wherein the identifying comprises determining whether the input signal is one of a D-sub analog signal, a DVI analog signal, a DVI digital signal, and a VIDEO signal.

8. The method of claim 6, wherein the checking comprises determining whether the input signal is abnormal by at least one of decoding the input signal and sensing whether an input signal cable is connected to the display device.

9. The method of claim 6, wherein the checking comprises setting one of a number of times the identified input signal is checked, a time required to check the identified input signal, and a position of the identified input signal to be checked within a sequence of identified input signals to be checked,

wherein if the checking whether the identified input signal is abnormal has not been performed one of the number of set times and checking whether the identified input signal is abnormal has not been performed for the period of set time, checking whether the identified input signal is abnormal continues.

10. The method of claim 9, wherein the checking further comprises checking the position of the checked input signal within the sequence of identified input signals to be checked to determine which identified input signal is to be checked after the checked input signal,

wherein the checked input signal is switched to the determined input signal so that whether the determined input signal is abnormal is checked.

11. A display device comprising:

a signal identifying unit receiving an input signal and identifying the type of received input signal;

a signal checking unit checking whether the identified input signal is abnormal; and

a signal changing unit switching from the checked input signal to check a next input signal so that the signal checking unit checks whether the next input signal is abnormal.

12. The display device of claim 11, wherein the identified input signal and the next input signal are abnormal if cables carrying the signals are not connected to the display device.

13. The display device of claim 11, wherein the identified input signal and the next input signal are abnormal if H-sync and V-sync patterns associated with the signals are abnormal.

14. The display device of claim 11, wherein the signal identifying unit identifies whether the received input signal is a D-sub analog signal.

15. The display device of claim 11, wherein the signal identifying unit identifies whether the received input signal is a DVI analog signal.

16. The display device of claim 11, wherein the signal identifying unit identifies whether the received input signal is a DVI digital signal.

17. The display device of claim 11, wherein the signal identifying unit identifies whether the received input signal is a VIDEO signal.

18. The display device of claim 11, wherein the signal checking unit checks whether the identified input signal is abnormal by decoding the identified input signal.

19. The display device of claim 11, wherein the signal checking unit checks whether the identified input signal is abnormal by sensing whether an input signal cable is connected.

20. The display device of claim 11, further comprising a data setting unit that sets the number of times the identified input signal is checked, wherein if the signal checking unit has not checked the number of set times, the signal checking unit continues the checking.

21. The display device of claim 11, further comprising a data setting unit that sets the time required to check the identified input signal, wherein if the signal checking unit has not checked the identified input signal for the set period of time, the signal checking unit continues checking whether the identified input signal is abnormal.

22. The display device of claim 11, further comprising a data setting unit that sets the position of the identified input signal to be checked within a sequence of identified input signals to be checked.

23. The display device of claim 22, further comprising a signal controlling unit that checks the position of the checked input signal within the sequence of identified input signals to be checked to determine which identified input signal is to be checked after the checked input signal,

wherein the signal changing unit switches from the checked input signal to the determined input signal so that the signal checking unit can check whether the determined input signal is abnormal.

24. The display device of claim 11, further comprising a menu from which a user determines the identified input signal is to be checked and a checking order.

25. A method of checking a signal input into a display device, the method comprising:

receiving an input signal and identifying the type of received input signal;

checking whether the received and identified input signal is abnormal; and

switching from the checked input signal to a next received and identified input signal to check whether the next received and identified input signal is abnormal.

26. The method of claim 25, wherein the identifying comprises identifying whether the input signal is a D-sub analog signal.

27. The method of claim 25, wherein the identifying comprises identifying whether the input signal is a DVI analog signal.

28. The method of claim 25, wherein the identifying comprises identifying whether the input signal is a DVI digital signal.

29. The method of claim 25, wherein the identifying comprises identifying whether the input signal is a VIDEO signal.

30. The method of claim 25, wherein the checking comprises checking whether a cable carrying the received and identified signal is connected to the display device.

31. The method of claim 25, wherein the checking comprises checking whether H-sync and V-sync patterns associated with the received and identified signal are abnormal.

32. The method of claim 25, wherein the checking comprises decoding the input signal.

33. The method of claim 25, wherein the checking comprises sensing whether a signal input cable is connected.

34. The method of claim 25, wherein the checking comprises setting the number of times the input signal is checked, wherein if the checking whether the input signal is abnormal has not been performed the number of set times, the checking whether the input signal is abnormal continues.

35. The method of claim 25, wherein the checking comprises setting the time required to check the input signal, wherein if the checking whether the input signal is abnormal has not been performed for the period of set time, the checking whether the input signal is abnormal continues.

36. The method of claim 25, wherein the checking comprises checking the position of the input signal to be checked within a sequence of input signals to be checked.

37. The method of claim 36, wherein the checking further comprises checking the position of the checked input signal within the sequence of input signals to be checked to determine which input signal is to be checked after the checked input signal,

wherein the checked input signal is switched to the determined input signal so that whether the determined input signal is abnormal can be checked.

38. The method of claim 25, wherein the checking comprises determining from a menu the received and identified input signal to be checked and an order of checking.